

IN THE CLAIMS

What is claimed is

1. An apparatus for performing a surgical anastomosis, comprising:
a tubular sleeve defining an axial lumen therethrough;
5 a positioning tube defining an axial lumen therethrough, the positioning tube being configured and adapted to be slidably received within the axial lumen of the tubular sleeve;
an expansion assembly having a tubular body and an expandable tip operatively coupled to a distal end thereof, the expandable tip having a retracted position in which the
10 expandable tip can pass through the axial lumen of the positioning tube and an expanded position in which the expandable tip can not pass through the axial lumen of the positioning tube; and
an anchoring assembly including:
a flange member having a head portion and an expandable annular body
15 integrally coupled to the head portion, the flange member defining a passage extending through the head portion and the annular body; and
a locking member defining a lumen therethrough, the locking member being configured and adapted to radially deflect the expandable annular body upon insertion of the locking member within the passage of the annular body.
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2. The apparatus according to claim 1, wherein the expandable tip of the expansion assembly is a balloon.
3. The apparatus according to claim 1, wherein the annular body of the
25 anchoring assembly comprises at least a pair of diametrically opposed longitudinal slots formed therein, wherein the annular body is expandable along the pair of longitudinal slots.
4. The apparatus according to claim 3, wherein the annular body of the
30 anchoring assembly includes a plurality of protuberances formed on an outer surface thereof.

5. The apparatus according to claim 3, wherein the annular body of the anchoring assembly has a first radius when not expanded and a second radius, larger than the first radius, when expanded.

5 6. The apparatus according to claim 5, wherein the head portion of the flange member has a radius which is larger than the first radius of the annular body.

7. The apparatus according to claim 6, wherein the locking member comprises a cylindrical body having a distal end portion, wherein the cylindrical body has a radius which is larger than the first radius of the annular body and wherein the distal end portion of the cylindrical body tapers down to a radius which is smaller than the first radius of the annular body.

8. The apparatus according to claim 3, wherein the longitudinal slots extend through a proximal terminal end of the annular body and terminate at a distance spaced from the head portion.

9. The apparatus according to claim 1, wherein the head portion includes a plurality of protuberances formed on a proximal surface thereof.

10. The apparatus according to claim 1, wherein the head portion includes a tapered distal surface.

11. The apparatus according to claim 1, wherein the annular body of the anchoring assembly comprises a plurality of longitudinal slots formed therein.

12. The apparatus according to claim 1, wherein the annular body of the anchoring assembly comprises at least one helical slot extending through the terminal end of the annular body.

13. The apparatus according to claim 1, wherein a proximal end of the locking member is configured and adapted to engage a distal end of the positioning tube.

14. The apparatus according to claim 1, wherein the head portion of the flange member has a radius which is larger than a radius of the lumen of the tubular sleeve.

5 15. The apparatus according to claim 1, wherein the head portion of the flange member has a radius which is smaller than an inner radius of the lumen of the tubular sleeve.

16. The apparatus according to claim 1, wherein the anchoring assembly is made from a bio-absorbable material.

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17. A method for performing a surgical anastomosis, comprising the steps of: providing an apparatus for performing an the surgical anastomosis, the apparatus comprising:

a tubular sleeve defining an axial lumen therethrough;

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a positioning tube defining an axial lumen therethrough, the positioning tube being configured and adapted to be slidably received within the axial lumen of the tubular sleeve;

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an expansion assembly having a tubular body and an expandable tip operatively coupled to a distal end thereof, the expandable tip having a retracted position in which the expandable tip can pass through the axial lumen of the positioning tube and an expanded position in which the expandable tip can not pass through the axial lumen of the positioning tube; and

an anchoring assembly including:

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a flange member having a head portion and an expandable annular body integrally coupled to the head portion, the flange member defining a passage extending through the head portion and the annular body; and

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a locking member defining a lumen therethrough, the locking member being configured and adapted to radially deflect the expandable annular body upon insertion of the locking member within the passage of the annular body;

passing the apparatus through a body lumen and through an opening in a body vessel such that the head portion of the flange member of the anchoring assembly is positioned within the body vessel;

advancing the expansion assembly through the positioning tube such that the expandable tip is within the body vessel;

expanding the expandable tip within the body vessel;
withdrawing the tubular body of the expansion assembly to press the head portion
of the flange member of the anchoring assembly against the body vessel and to
approximate the body vessel with the body lumen until the annular body of the flange
5 member of the anchoring assembly is positioned within a distal end of the body lumen;
advancing the positioning tube through the tubular body to drive the
locking member of the anchoring assembly into the annular body of the flange member
and to deflect the annular body radially outward against the inner surface of the body
lumen.

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18. The method according to claim 18, further comprising the step of
retracting the expandable tip of the expansion assembly.

19. The method according to claim 18, further comprising the step of
15 withdrawing the tubular body, the positioning tube and the expansion assembly from the
body lumen.

20. The method according to claim 19, wherein the surgical anastomosis is a
radical prostatectomy.

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21. The method according to claim 20, wherein the radical prostatectomy
includes the steps of removing the prostate gland from between the urethra and the
bladder to define a urethral stump and a bladder neck.

25 22. An anchoring assembly for use in a surgical anastomosis procedure,
comprising:

a flange member having a head portion and an expandable annular body integrally
coupled to the head portion, the flange member defining a passage extending through the
head portion and the annular body; and

30 a locking member defining a lumen therethrough, the locking member being
configured and adapted to radially deflect the expandable annular body upon insertion of
the locking member within the passage of the annular body.

23. The anchoring assembly according to claim 22, wherein the annular body of the anchoring assembly comprises at least a pair of diametrically opposed longitudinal slots formed therein, wherein the annular body is expandable along the pair of longitudinal slots.

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24. The anchoring assembly according to claim 23, wherein the annular body of the anchoring assembly has a first radius when not expanded and a second radius, larger than the first radius, when expanded.

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25. The anchoring assembly according to claim 24, wherein the head portion of the flange member has a radius which is larger than the first radius of the annular body.

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26. The anchoring assembly according to claim 25, wherein the locking member comprises a cylindrical body having a distal end portion, wherein the cylindrical body has a radius which is larger than the first radius of the annular body and wherein the distal end portion of the cylindrical body tapers down to a radius which is smaller than the first radius of the annular body.

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27. The anchoring assembly according to claim 26, wherein the longitudinal slots extend through a proximal end of the annular body and terminate at a distance spaced from the head portion.